

MEMORANDUM

Date: December 12, 2016

Project: Redmond City Center

Subject: Transportation Amendment for the Lofts Option

From: Michelle M. Brown, Senior Transportation Engineer
Marni C. Heffron, P.E., P.T.O.E.

This memorandum is to serve as an amendment to the approved *Transportation Technical Report for Redmond City Center*.¹ It provides supplemental information to the City relating to a new program alternative referred to as the Lofts Option that the proponent could develop depending on market conditions. This memorandum identifies the traffic and parking relationships between the approved project program evaluated within the *Transportation Technical Report for Redmond City Center* and the Lofts Option. It also presents information about site driveway operations, off-site intersection operations, impact fees, transportation concurrency, and mitigation for the Lofts Option.

To maintain consistency and provide comparable results, the same methodologies and processes used in the approved analysis were also used to evaluate the Lofts Option. This includes the City of Redmond's Technical Committee's acceptance of the Transportation Management Plan with the office parking demand reduced by 30% and a 15% parking space buffer for the retail parking supply. The proposed parking supply assumes that 50% of the total spaces would be sized for compact vehicles.

The *Redmond City Center – Alternative Minimum Parking Requirement*² identified a methodology to calculate the parking demand for the project. A parking rate table was provided (see Attachment 1), and identified that if the project program changes, then the process could be used to determine if any change in parking supply would be required. The same process and assumptions were used to estimate the project trip generation and parking demand for the Lofts Option.

1. Project Program Comparison

The project program for the Lofts Option and the approved project are shown in Table 1. Compared to the approved project program, the Lofts Options includes more general retail space, office space and additional residential units. It is noted that the *Transportation Technical Report* assumed 335 standard parking spaces and 27 tandem spaces, for a total capacity for 389 vehicles. Since that time, the proposed parking was revised to 342 standard spaces and 27 tandem spaces for a total capacity for 396 vehicles. The proponent is now pursuing an administrative change to add 40 more standard parking spaces, which would increase the on-site parking supply to 436 spaces (382 standard spaces plus 27 tandem spaces). The site plan for the project is shown on Figure 1.

¹ Heffron Transportation, Inc. December 15, 2015.

² Technical Memorandum, Response to Comments, Heffron Transportation, Inc., September 30, 2015.

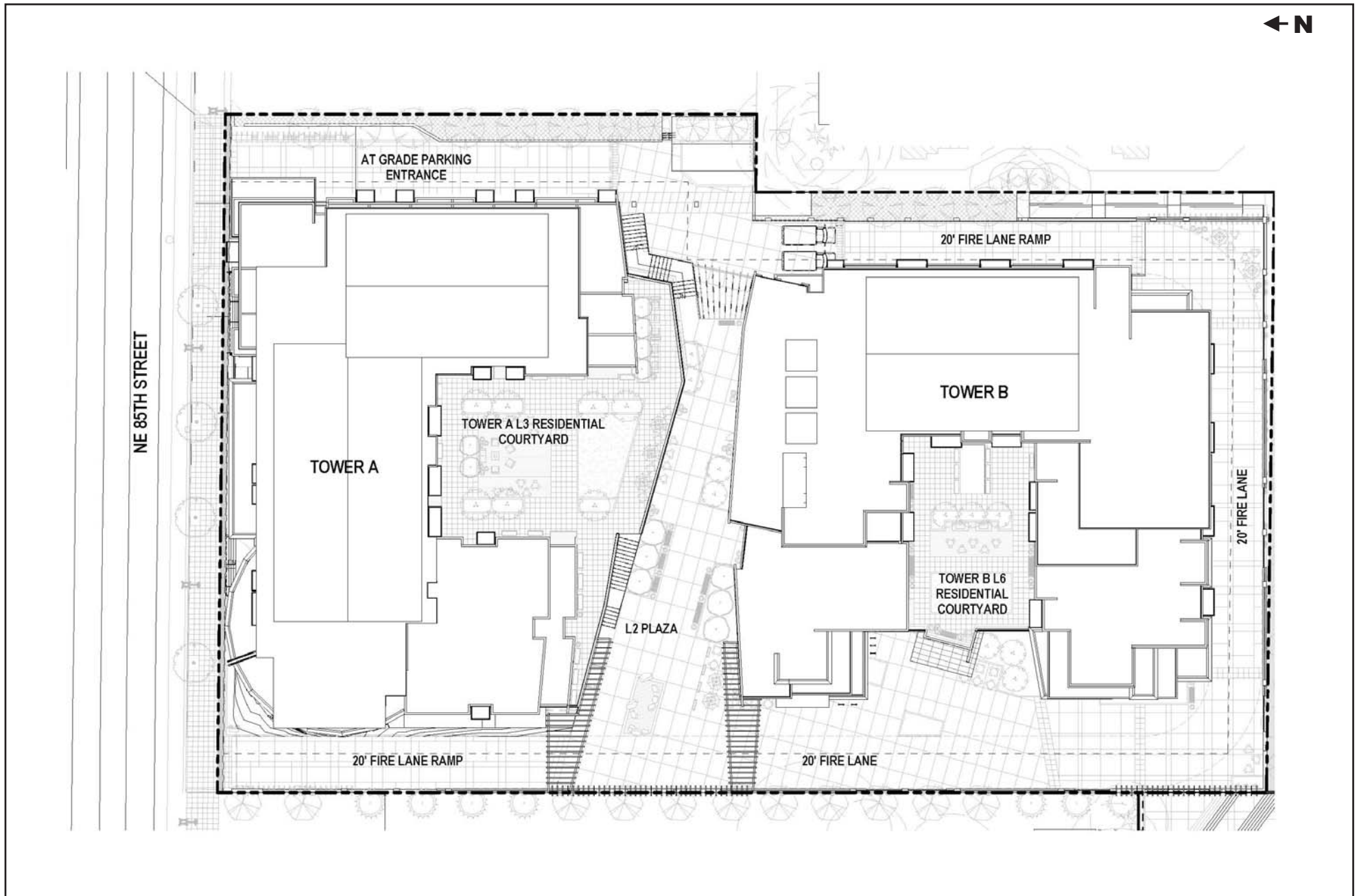
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Transportation Amendment for the Lofts Option*

Table 1. Redmond City Center – Project Programs

Type of Use	Approved Program	Lofts Option
Residential (Multi-family)	249 units	303 units
Supermarket	21,820 sf ¹	21,820 sf
Retail	2,485 sf	10,480 sf
Office	100,830 sf ²	101,500 sf
Parking Spaces	369 spaces ³	409 spaces
Standard spaces	342 spaces	382 spaces
Tandem spaces	27 spaces	27 spaces
Total Vehicle Capacity ⁴	396 vehicles	436 vehicles

Source: Jackson-Main Architects, November 2016.

1. Square feet = sf.
2. Office square footage is based on total gross square footage of 100,830 sf, (net square footage is 83,130 sf).
3. Transportation Technical Report included 362 spaces with 27 tandem spaces, for a total capacity for 389 vehicles. Since that time the proposed parking has been revised as shown.
4. Assumes that each tandem parking space can accommodate two vehicles.



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Figure 1
Site Plan - Lofts Option

2. Project Trip Generation Comparisons

The rates, equations, and methodologies from the Institute of Transportation Engineers (ITE) current *Trip Generation Handbook*³ were used to estimate the trip generation for the approved plan and were used for estimating the project trip generation for the Lofts Option. The methodology included taking credit for the existing United State Post Office Building and related elements and constructing two buildings with mixed-uses. It also reflected a conservative approach by **not** applying the elements that would be implemented in the Transportation Management Plan to reduce vehicular trips. Baseline vehicle trips, person trips, internal trips and net vehicle trips were calculated. The estimated vehicle trips for the approved project are shown in Table 2;⁴ estimated vehicle trips for the Lofts Option are shown in Table 3.

Table 2. Estimated Vehicle Trips by the Proposed Redmond City Center – Approved Project

Land Use	Assumed Size	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Office	100,830 sf	930	140	14	154	23	125	148
Retail	2,485 sf	50	0	0	0	19	21	40
Supermarket	21,820 sf	1,580	37	20	57	77	62	139
Apartment	249 units	1,270	25	103	128	67	40	107
Total		3,830	202	137	339	186	248	434

Source: Heffron Transportation, Inc. October 2015. Estimated using procedures in the ITE Trip Generation Handbook, 2014, as documented in the Transportation Technical Report for Redmond City Center, Heffron Transportation, Inc., December 15, 2015.

Table 3. Estimated Vehicle Trips by the Proposed Redmond City Center – Lofts Option

Land Use	Assumed Size	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Office	101,500 sf	920	138	15	153	23	121	144
Retail	10,480 sf	230	4	1	5	48	49	97
Supermarket	21,820 sf	1,650	38	21	59	77	63	140
Apartment	303 units	1,550	31	123	154	76	48	124
Total		4,350	212	160	372	224	282	506

Source: Heffron Transportation, Inc. December 2016. Estimated using procedures documented in the Transportation Technical Report for Redmond City Center, Heffron Transportation, Inc., December 15, 2015.

The retail and supermarket trips were separated into primary and pass-by trips under each scenario and then credit was taken for the existing use. The net changes in vehicle trips from the *Transportation Technical Report for Redmond City Center*⁵ are shown below in Table 4; the net change in trips for the Lofts Option is shown in Table 5.

³ Institute of Transportation Engineers, 3rd Edition, August 2014.

⁴ *Transportation Technical Report for Redmond City Center*, Heffron Transportation, Inc., December 15, 2015.

⁵ Table 14. Net Change in Trips by Component, Heffron Transportation, Inc. December 15, 2015.

Table 4. Net Change in Trip Components - Approved Project

Project Component and Type of Trip	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Proposed Project							
Primary Trips	3,240	192	127	319	154	216	370
Pass-by Trips	590	10	10	20	32	32	64
Total	3,830	202	137	339	186	248	434
Existing Use							
Primary Trips	-1,190	-47	-44	-91	-63	-60	-123
Total Net Trips							
Primary Trips	2,050	145	83	228	91	156	247
Pass-by Trips	590	10	10	20	32	32	64
Total	2,640	155	93	248	123	188	311

Source: Heffron Transportation, Inc., October 2015. Estimated using procedures in the ITE Trip Generation Handbook, 2014; Pass-by rates from Supermarket LUC 850 - (Table F.13) and Shopping Center LUC 820 - (Table F.9). As documented in the Transportation Technical Report for Redmond City Center, Heffron Transportation, Inc., December 15, 2015.

Table 5. Net Change in Trip Components – Lofts Option

Project Component and Type of Trip	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Proposed Project							
Primary Trips	3,680	200	148	348	183	241	423
Pass-by Trips	670	12	12	24	42	42	83
Total	4,350	212	160	372	224	282	506
Existing Use							
Primary Trips	-1,190	-47	-44	-91	-63	-60	-123
Total Net Trips							
Primary Trips	2,490	153	104	257	120	181	301
Pass-by Trips	670	12	12	24	42	42	84
Total	3,160	165	116	281	162	223	385

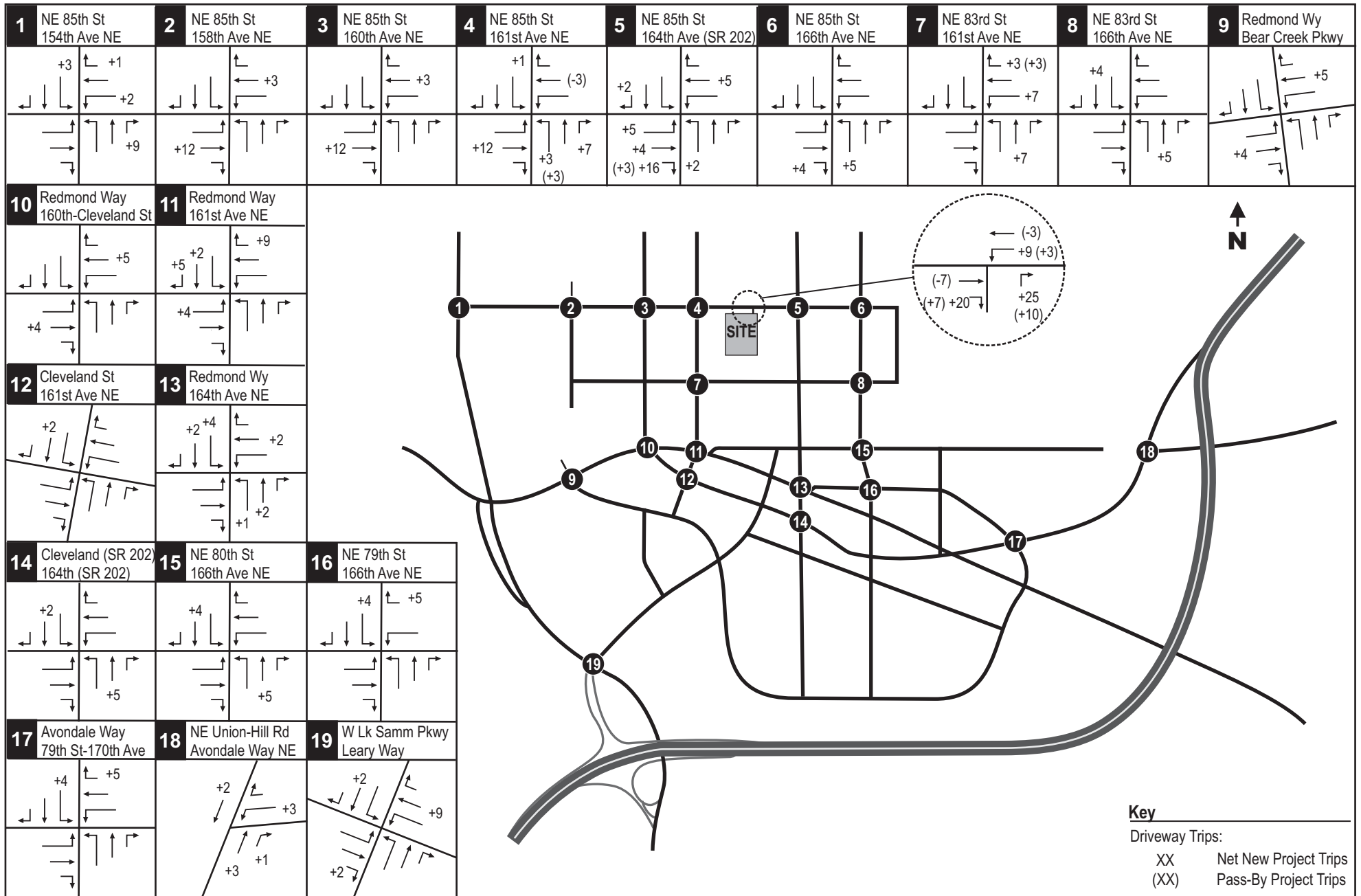
Source: Heffron Transportation, Inc., December 2016. Estimated using procedures in the ITE Trip Generation Handbook, 2014; Pass-by rates from Supermarket LUC 850 - (Table F.13) and Shopping Center LUC 820 - (Table F.9).

As shown above, the Lofts Option is estimated to generate 29 additional net new AM peak hour primary trips and 54 additional net new primary PM peak hour vehicle trips compared to the approved project. The analyses documented in the *Transportation Technical Report* for the approved project represents a conservative and worst case condition because it did not take into account the required Transportation Management Plan efforts that would be in place to reduce the office vehicle trips by 30%. If this approved 30% reduction were applied to the Lofts Option, then the Lofts Options would generate one additional net new AM peak hour primary trip and 27 additional primary net new PM peak hour trips

compared to what was evaluated within the approved project's transportation analysis. A discussion regarding this application is presented later in this report.

3. Traffic Operations

The directional split (inbound and outbound trips) for the Lofts Option is similar to the approved project. The trips were assigned at the driveway applying the same trip distribution percentages that were used for the approved project, which included restricting the exiting movements out of the driveway to right-turns only during peak times. The trips were assigned to the same study area intersections that were evaluated for the approved project. These additional net new primary PM peak hour project trips are shown on Figure 2.



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Figure 2
Net New Additional Lofts Option Project Trips
PM Peak Hour

3.1. Off-Site Intersections

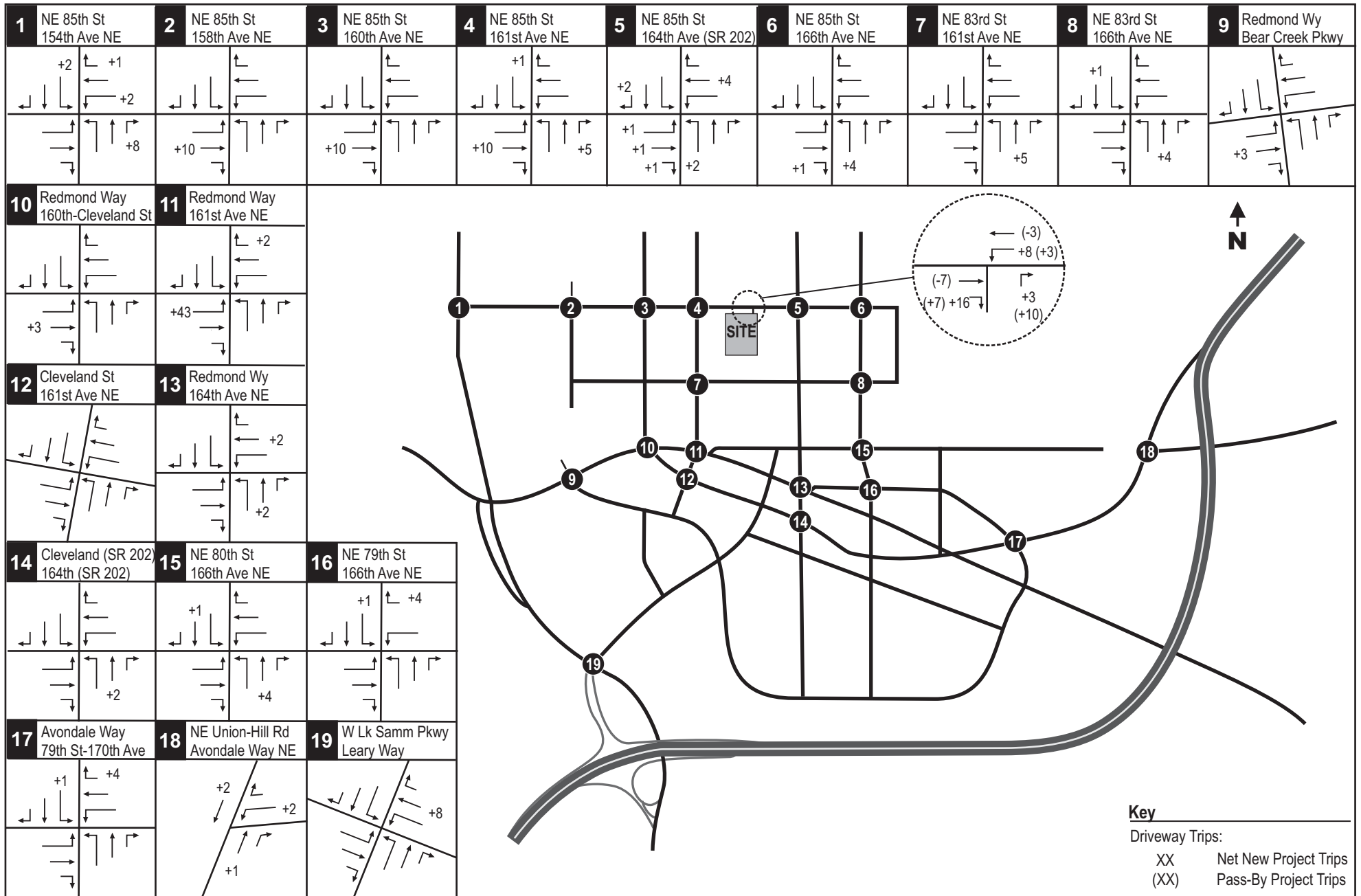
The City of Redmond requested that off-site intersections that were estimated to operate at LOS E or F conditions with the approved project be evaluated with the Lofts Option. To be conservative, each intersection that was estimated to operate at LOS D or below was evaluated. Table 6 shows these level of service results at the selected intersections. The levels of service results for the Lofts Option are similar to the results documented in the *Transportation Technical Report* for the approved project. The additional trips associated with this option would not change any of the level of service results at the off-site intersections.

The NE 79th Street/166th Avenue NE (#16) and Westlake Sammamish Parkway/SR 520/Leary Way NE (#19) intersections are shown to operate at LOS F. As documented in the *Transportation Technical Report*, these intersections are estimated to operate at this level by 2020 without the proposed project developed. The City has indicated possible improvements to the NE 79th Street/166th Avenue NE (#16) intersection, and the level of service with these improvements completed are shown. If the City makes these improvements, the recommendation is still valid that the proponent contributes a pro-rata share towards the improvements. The proposed project is estimated to add through trips and right-turning trips to the Westlake Sammamish Parkway/SR 520/Leary Way NE (#19) intersection. These added trips would not adversely impact operations at this location. No additional off-site mitigation is recommended with the Lofts Option compared to the approved project.

3.2. Site Access

Level of service for the site access driveway is shown in Table 6. Both the site access exit right-turn movement (northbound approach), and the eastern Village Square driveway (southbound approach) show a reduction in operations compared to the approved project. These results do not take into account the required 30% reduction in office trips associated with the project's approved Transportation Management Plan. Since the TMP has been approved and would apply to the office component of the project it is appropriate to apply this reduction to evaluate its effect. Figure 3 shows the net new additional PM peak hour Lofts Option project trips with the approved 30% reduction applied.

A level of service evaluation with the TMP application was completed at the site access intersection for both the approved project and the Lofts Option; results are shown in Table 6. With the Lofts Option and TMP, northbound right turns exiting the driveway are expected to operate at LOS F with about 62 seconds of delay per vehicle. This operation does not account for gaps that may be created by the upstream traffic signals that should improve the ability to make right turns. The analysis does show that the project could increase delay for the driveway on the opposite side of the street (southbound approach). However, there are fewer than 10 trips expected to use the southbound driveway during this peak time, and drivers have the option to use that site's western driveway as an alternative access point.



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Figure 3
Net New Additional Lofts Option (with TMP) Project Trips
PM Peak Hour

Table 6. Level of Service Comparisons – Future With-Project (2020) PM Peak Hour

ID	Intersection	PM Peak Hour Conditions			
		Approved Project		Lofts Option	
		LOS ¹	Delay ²	LOS	Delay
1	NE 85 th Street / 154 th Avenue NE	C	28.7		
2	NE 85 th Street / 158 th Ave NE	A	8.7		
3	NE 85 th Street / 160 th Avenue NE	C	23.1		
4	NE 85 th Street / 161 st Avenue NE	B	19.5		
5	NE 85 th Street / 164 th Avenue NE (SR 202)	D	36.2	D	38.9
6	NE 85 th Street / 166 th Avenue NE	C	22.9		
7	NE 83 rd Street / 161 st Avenue NE	B	18.5		
8	NE 83 rd Street / 166 th Avenue NE	B	19.7		
9	Redmond Way / Bear Creek Parkway	C	20.9		
10	Redmond Way / 160 th Avenue NE / Cleveland Street	D	41.4	D	41.4
11	Redmond Way / 161 st Avenue NE	B	19.6		
12	Cleveland Street / 161 st Avenue NE	B	18.3		
13	Redmond Way / 164 th Avenue NE	C	30.1		
14	Cleveland Street (SR 202) / 164 th Avenue NE	C	21.3		
15	NE 80 th Street / 166 th Avenue NE	B	18.3		
16	NE 79 th Street / 166 th Avenue NE ³				
	- Eastbound Approach	F (B) ⁴	>200 (11.0) ⁴	F (B) ⁴	>200 (10.2) ⁴
	- Westbound Approach	F (C) ⁴	>200 (21.5) ⁴	F (C) ⁴	>200 (21.9) ⁴
17	Avondale Way / NE 79 th Street	D	38.0	D	38.1
18	Avondale Way / Union Hill Road	C	23.4		
19	W Lake Sammamish Pkwy / SR 520 / Leary Way NE	F	85.0	F	84.5
	NE 85 th Street / Site Dwy / Village Square Dwy ⁵				
	- Eastbound Approach	A (A) ⁶	7.8 (7.8) ⁶	A (A) ⁶	7.8 (7.8) ⁶
	- Westbound Approach	B (B)	10.8 (10.8)	B (B)	11.1 (11.0)
	- Northbound Approach	F (E)	54.1 (43.9)	F (F)	78.7 (62.4)
	- Southbound Approach	E (D)	41.0 (29.9)	F (F)	>200 (59.9)

Source: Heffron Transportation, Inc., December 2016.

1. Level of service.
2. Average seconds of delay per vehicle.
3. Unsignalized intersection (stop controlled on eastbound and westbound approaches.)
4. Level of service shown for existing configuration (and possible re-configuration with eastbound and westbound approaches restricted to right-turn only movements.)
5. Unsignalized location. Proposed site driveway with right-turns on allowed out of the site driveway during peak times.
6. (X) - Level of service shown with TMP applied to office component of project to site access intersection.

4. Parking Supply and Demand Comparisons

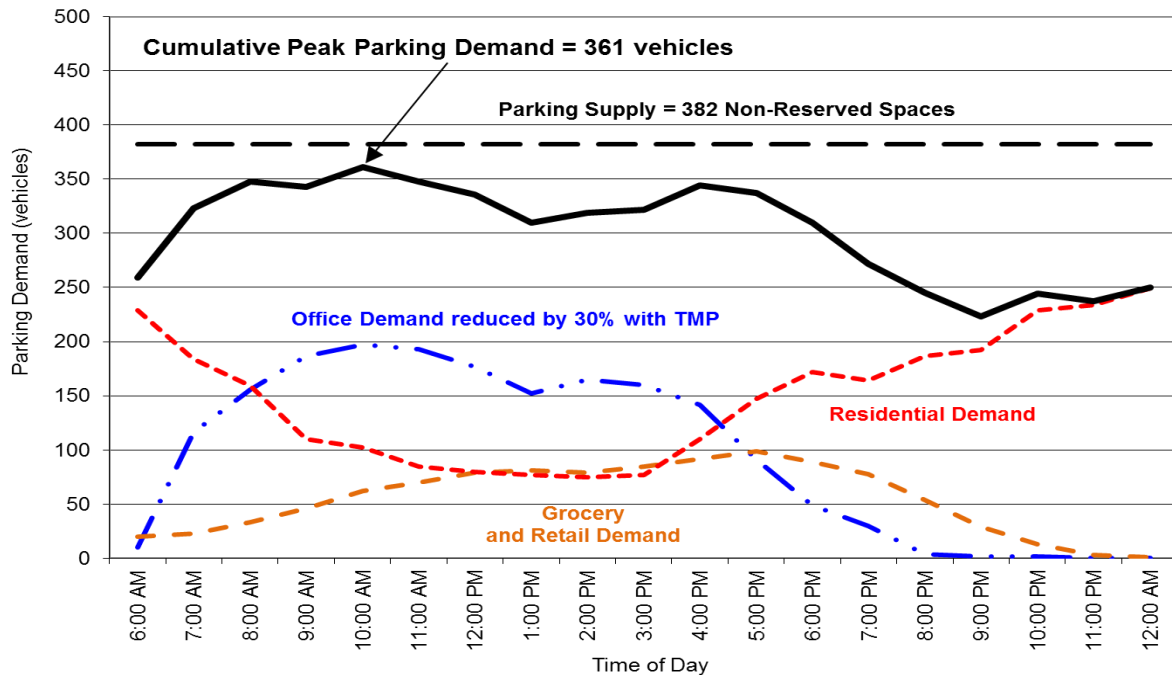
The *Transportation Technical Report* documented that the approved project would provide 362 parking spaces (335 standard spaces plus 27 tandem spaces), with a total supply capacity for 389 vehicles in three parking levels. As the plans for the development have progressed, the approved project has increased the parking supply to 369 spaces (342 standard spaces plus 27 tandem spaces), a capacity for 396 vehicles. Currently, the project is in the process of pursuing the addition of 40 more standard spaces in the lower parking level. This would increase the capacity for 436 vehicles (382 standard spaces plus 27 tandem spaces).

Using the same methodology as was used in the *Transportation Technical Report* and the *Alternative Minimum Parking Requirement*⁶ memo; the peak parking demand for the Lofts Options was estimated. As with the approved proposal, the Lofts Option includes residential units, a grocery store, general retail, and office space. These types of uses can share parking during the day. The Lofts Option is estimated to have an overnight peak parking demand of 277 vehicles (250 non-reserved spaces and 27 reserved spaces to be used).

The daytime peak parking demand includes the demand for the office component that would need to be decreased by 30% through a Transportation Management Plan (TMP) compared to an average office. Programs would be implemented that encourage office employees to commute using transit, walking and biking as modes of travel. The estimated shared peak parking demand for the entire site would likely occur at 10:00 A.M. with 361 vehicles, which coincides with the peak demand for the office use. The office peak at this time is estimated to be 197 vehicles, the grocer and retail combined would demand for 62 vehicles, and the residential demand would be 102 vehicles for the shared spaces as shown on Figure 4. The addition of the 27 reserved spaces equates to 388 spaces used during the peak time. Per the City's request, a 15% buffer is to be applied to the grocery and retail uses during the peak times, which would include an additional nine spaces for a total 370 non-reserved and 27 reserved spaces required. The proposed parking supply (382 non-reserved spaces and 27 reserved spaces) would accommodate the parking demand for the Lofts Option.

⁶ Heffron Transportation, Inc., September 30, 2016.

Figure 4. Cumulative Parking Demand for Lofts Option – Shared Uses Only



Source: Estimated using Right-Size Parking Rate for residential use plus ITE parking rates for grocery store and office (with 30% adjustment for TMP and 27 reserved tandem spaces).

5. Transportation Concurrency

The City of Redmond requires new development to apply for a Certificate of Concurrency. The application for the approved project was prepared according to the City of Redmond guidelines using the appropriate land uses and mobility unit rates supplied (based on number of units and building sizes, not by number of trips) by the City of Redmond. That project resulted in 1,023 mobility units that were to be used in the concurrency evaluation. Preliminary estimates show that the Lofts Option would result 1,151 mobility units. The Concurrency Application for the Redmond City Center would need to be revised if the Lofts Option were pursued.

6. Traffic Impact Fees

The City of Redmond's adopted Transportation Impact Fees through the *Redmond Municipal Code*⁷ 3.10.100 (updated and effective January 1, 2015) were used to calculate the Redmond City Center fee. The estimate for the approved project within the Downtown zone was \$2,281,400. This information was documented in the *Transportation Technical Report*. The City's rates were updated on January 1, 2016, and depending on the timing of the development's schedule; these fees could change again. As a comparison, the new fees were calculated for the approved project as shown Table 7. The preliminary fees for the Lofts Option are presented in Table 8.

⁷ City of Redmond, passed September 15, 2015.

Table 7. Traffic Impact Fee Estimate Update – Approved Project

Land Use	# Units/SF ^a	Rate ^b	Impact Fee
Proposed Multi-Family	249 units	\$3,261.22/unit	\$812,040
Proposed Office	100,830 sf	\$13.27/sf	\$1,338,010
Proposed Supermarket	21,820 sf	\$32.09/sf	\$700,200
Proposed Retail	2,485 sf	\$14.87/sf	\$36,950
(Removed Post Office)	(12,910 sf) ^c	(\$37.98/sf)	(\$490,320)
Total Fee			\$2,396,880

a. Square feet

b. City of Redmond Municipal Code. Rates effective January 1, 2016.

c. This value represents the building square footage only as a conservative estimate. The actual usable square footage of the specialized areas may also apply.

Table 8. Traffic Impact Fee Estimate – Lofts Option

Land Use	# Units/SF ^a	Rate ^b	Impact Fee
Proposed Multi-Family	303 units	\$3,261.22/unit	\$988,150
Proposed Office	101,500 sf	\$13.27/sf	\$1,346,910
Proposed Supermarket	21,820 sf	\$32.09/sf	\$700,200
Proposed Retail	10,480 sf	\$14.87/sf	\$155,840
(Removed Post Office)	(12,910 sf) ^c	(\$37.98/sf)	(\$490,320)
Total Fee			\$2,700,780

a. Square feet

b. City of Redmond Municipal Code. Rates effective January 1, 2016.

c. This value represents the building square footage only as a conservative estimate. The actual usable square footage of the specialized areas may also apply.

7. Off-Site Mitigation

Based on the *Transportation Technical Report* analysis, no off-site improvements are needed as a result of the proposed Redmond City Center project. However, it was identified that if the City determines the need to restrict left-turns and through movements from the eastbound and westbound approaches at the NE 79th Street/166th Avenue NE (#16) intersection, then a pro-rata share for all pipeline projects in the area could be applied. The approved Redmond City Center project would add 38 project trips to this location, which would represent 2.2% of the estimated 2020 PM peak hour traffic volumes (without the turning restrictions). The Lofts Option project trips would represent 2.5% of the estimated 2020 PM peak hour trips, assuming the TMP reduction in office trips.

8. Summary

Compared to the Redmond City Center's approved project program, the Lofts Option would have the following transportation-related impacts:

- The Lofts Option is estimated to generate more AM and more PM peak hour trips compared to the approved project. However, it should be noted, the approved project and the Lofts Option would include a Transportation Management Plan that requires efforts to reduce the office vehicle trip generation by 30%. With this reduction applied, the Lofts Option would generate about the same number of net primary trips during the AM peak hour and 27 more net primary trips during the PM peak hour compared to the number of trips evaluated for the approved project in the *Transportation Technical Report*. As a comparison of both options with the TMP applied; the Lofts Option is estimated to generate 28 more new primary trips during the AM peak hour and 54 more new primary trips during the PM peak hour. A comparison of the approved project's net trip generation to the Lofts Options is shown in Table 9.
- The additional trips would not change any of the off-site operational results that were presented in the *Transportation Technical Report*. No additional off-site mitigation would be needed. The pro-rata share contribution for the NE 79th Street/166th Avenue NE (#16) intersection would increase to 2.5%.
- The on-site driveway is expected to operate with some additional delay with the Lofts Option compared to the approved project.
- The on-site parking supply of 409 spaces (a capacity for 436 vehicles) would accommodate the parking demand for the Lofts Option.
- The traffic impact fees would need to be recalculated for the Lofts Option. Based on the current rate, the traffic impact fee is estimated to be about \$2.7 million.
- The City's Concurrency Application would need to be updated for the Lofts Option with about 128 more mobility units than what was evaluated under the approved project.

Table 9. Net Trip Generation Comparison – Approved Project and Lofts Option

Project Component and Type of Trip	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Approved Project without TMP							
Primary Trips	2,050	145	83	228	91	156	247
Pass-by Trips	590	10	10	20	32	32	64
Total Net Trips	2,640	155	93	248	123	188	311
Approved Project w/TMP							
Primary Trips	1,880	120	81	201	87	133	220
Pass-by Trips	590	10	10	20	32	32	64
Total Net Trips	2,470	130	91	221	119	165	284
Lofts Option without TMP							
Primary Trips	2,490	153	104	257	120	181	301
Pass-by Trips	670	12	12	24	42	42	84
Total Net Trips	3,160	165	116	281	162	223	385
Lofts Option w/TMP							
Primary Trips	2,320	128	101	229	115	159	274
Pass-by Trips	670	12	12	24	42	42	84
Total Net Trips	2,990	140	113	253	157	201	358

Source: Heffron Transportation, Inc., December 2016. Estimated using procedures in the ITE Trip Generation Handbook, 2014; Pass-by rates from Supermarket LUC 850 - (Table F.13) and Shopping Center LUC 820 – (Table F.9).

Attachment 1: Peak Demand and Proposed Parking Supply – Weekday (10:00 A.M.) for Approved Project

Attachment 1. Peak Demand and Proposed Parking Supply – Weekday (10:00 A.M.) for Approved Project

Land Use	Current Proposal	Peak Parking Demand Rate by Use (Peak Times Vary)	Percent of Peak at 10:00 A.M.	Peak Demand (at 10:00 A.M.)	Resulting Parking Demand Rate (at 10:00 A.M.)	Buffer	Parking Supply per Land Use
Office	100,830 sf	2.77 spaces/1,000 sf	100%	196 vehicles	1.94 vehicle/1,000 sf ¹ (includes 30% reduction)	0 spaces	196 spaces
Residential Non-reserved (Reserved) ²	222 units (27 units)	0.88 spaces/unit (1.0 space/unit)	41% (100%)	80 vehicles + (27 tandem)	0.36 vehicle/unit ³ (1.0 vehicle/unit - reserved)	0 spaces (0 spaces)	80 spaces + (27 tandem)
Retail Supermarket Gen. Retail	21,822 sf 2,484 sf	3.78 spaces/1,000 sf 2.55 spaces/1,000 sf	53% 68%	44 vehicles 4 vehicles	2.02 spaces/1,000 sf 1.61 spaces/1,000 sf	9 spaces ⁴ 2 spaces ⁴	53 spaces 6 spaces
Total				324 vehicles + (27) tandem)		11 spaces + (0 tandem)	335 spaces + (27 tandem)

Heffron Transportation, Inc. September 2015.

1. If the office square footage changes substantially, then the peak time may no longer be 10:00 A.M. and the parking demand evaluation will need to be revised for the site.
2. Tandem spaces are reserved and not shared so the demand equals the supply.
3. If the ratio of reserved to non-reserved spaces changes under future project programs, these rates will need to be adjusted.
4. Two additional spaces have been added to the supermarket buffer and one space has been added to the general retail supply, representing a 21% buffer to the overall retail peak demand.

REDMOND CITY CENTER COMPENDIUM OF TRAFFIC AND PARKING INFORMATION RESIDENTIAL OPTION

A detailed analysis has been completed for the Lofts Option to the Redmond City Center project. This analysis is presented in the memorandum *Redmond City Center – Transportation Amendment for the Lofts Option* (Heffron Transportation, Inc. December 12, 2016). A feasibility analysis was also completed for an **All Residential Option** and the related information is provided within this document. Overall the All Residential Option would generate fewer trips and have less impact than the evaluated Lofts Option. No additional on-site or off-site mitigation would be required for the All Residential Option beyond what was presented in the approved *Transportation Technical Report for Redmond City Center* (Heffron Transportation, Inc. December 15, 2015). If the All Residential Option is pursued instead of the approved project, the transportation concurrency, traffic impact fees, and any pro-rata share contributions will need to be revised.

Project Program

Table 1. Redmond City Center – Project Programs

Type of Use	Approved Program	All Residential Option
Residential (Multi-family)	249 units	409 units
Supermarket	21,820 sf ¹	21,820 sf
Retail	2,485 sf	10,480 sf
Office	100,830 sf ²	0 sf
Parking Spaces	369 spaces ³	409 spaces
Standard spaces	342 spaces	382 spaces
Tandem spaces	27 spaces	27 spaces
Total Vehicle Capacity ⁴	396 vehicles	436 vehicles

Source: Jackson-Main Architects, November 2016.

1. Square feet = sf.
2. Office square footage is based on total gross square footage of 100,830 sf, (net square footage is 83,130 sf).
3. Transportation Technical Report included 362 spaces with 27 tandem spaces, for a total capacity for 389 vehicles. Since that time the proposed parking has been revised as shown.
4. Assumes that each tandem parking space can accommodate two vehicles.

Trip Generation

Table 2. Estimated Vehicle Trips by Proposed Redmond City Center – All-Residential Option

Land Use	Assumed Size	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
Office	0 sf	0	0	0	0	0	0	0
Retail	10,480 sf	290	6	2	8	53	49	102
Supermarket	21,820 sf	1,760	41	25	66	85	66	151
Apartment	409 units	2,260	42	169	211	120	71	191
Total		4,310	89	196	285	258	186	444

Source: Heffron Transportation, Inc. December 2016. Estimated using procedures documented in the Transportation Technical Report for Redmond City Center, Heffron Transportation, Inc., December 15, 2015.

Table 3. Net Change in Trip Components – All-Residential Option

Project Component and Type of Trip	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Proposed Project							
Primary Trips	3,580	76	183	259	214	142	356
Pass-by Trips	730	13	13	26	44	44	88
Total	4,310	89	196	285	258	186	444
Existing Use							
Primary Trips	-1,190	-47	-44	-91	-63	-60	-123
Total Net Trips							
Primary Trips	2,390	29	139	168	151	82	233
Pass-by Trips	730	13	13	26	44	44	88
Total	3,120	42	152	194	195	126	321

Source: Heffron Transportation, Inc., December 2016. Estimated using procedures in the ITE Trip Generation Handbook, 2014; Pass-by rates from Supermarket LUC 850 - (Table F.13) and Shopping Center LUC 820 – (Table F.9).

Table 4. **Net Trip Generation Comparison** – Approved Project and All-Residential Option

Project Component and Type of Trip	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Approved Project without TMP							
Primary Trips	2,050	145	83	228	91	156	247
Pass-by Trips	590	10	10	20	32	32	64
Total Net Trips	2,640	155	93	248	123	188	311
Approved Project w/TMP							
Primary Trips	1,880	120	81	201	87	133	220
Pass-by Trips	590	10	10	20	32	32	64
Total Net Trips	2,470	130	91	221	119	165	284
All-Residential Option							
Primary Trips	2,390	29	139	168	151	82	223
Pass-by Trips	730	13	13	26	44	44	88
Total Net Trips	3,120	42	152	194	195	126	321

Source: Heffron Transportation, Inc., December 2016. Estimated using procedures in the ITE Trip Generation Handbook, 2014; Pass-by rates from Supermarket LUC 850 - (Table F.13) and Shopping Center LUC 820 – (Table F.9).

Traffic Operations

Table 5. Level of Service Comparisons – Future With-Project (2020) PM Peak Hour

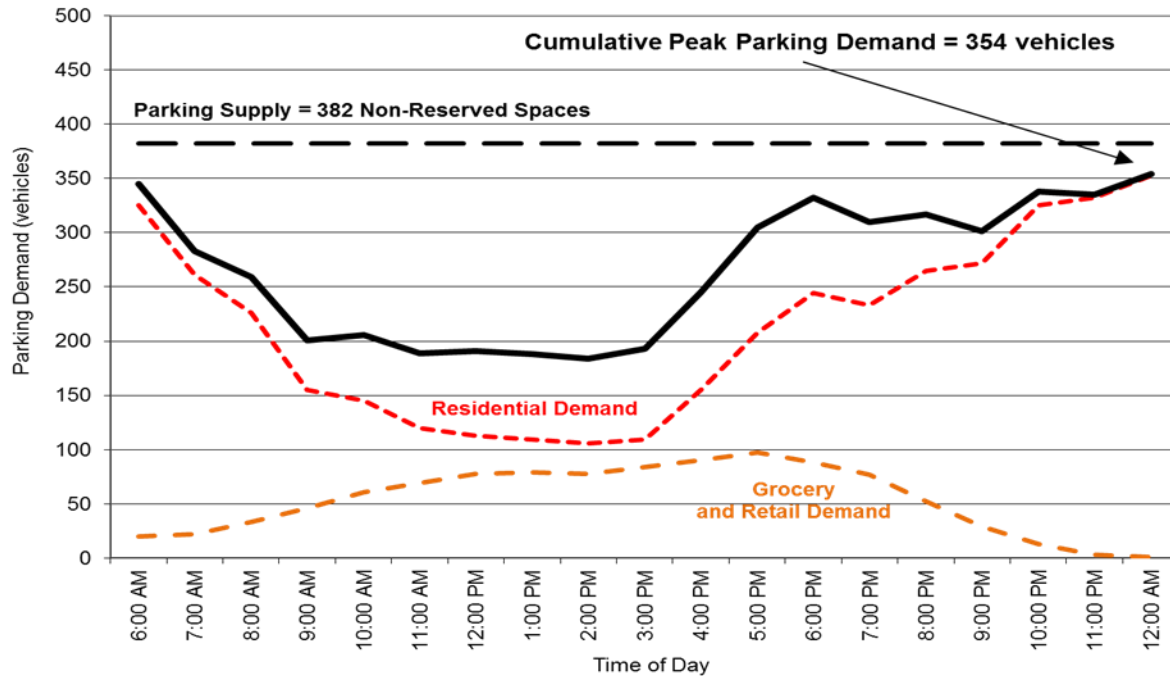
ID	Intersection	PM Peak Hour Conditions			
		Approved Project		All Residential Option	
		LOS ¹	Delay ²	LOS	Delay
1	NE 85 th Street / 154 th Avenue NE	C	28.7		
2	NE 85 th Street / 158 th Ave NE	A	8.7		
3	NE 85 th Street / 160 th Avenue NE	C	23.1		
4	NE 85 th Street / 161 st Avenue NE	B	19.5		
5	NE 85 th Street / 164 th Avenue NE (SR 202)	D	36.2	D	38.3
6	NE 85 th Street / 166 th Avenue NE	C	22.9		
7	NE 83 rd Street / 161 st Avenue NE	B	18.5		
8	NE 83 rd Street / 166 th Avenue NE	B	19.7		
9	Redmond Way / Bear Creek Parkway	C	20.9		
10	Redmond Way / 160 th Avenue NE / Cleveland Street	D	41.4	D	41.4
11	Redmond Way / 161 st Avenue NE	B	19.6		
12	Cleveland Street / 161 st Avenue NE	B	18.3		
13	Redmond Way / 164 th Avenue NE	C	30.1		
14	Cleveland Street (SR 202) / 164 th Avenue NE	C	21.3		
15	NE 80 th Street / 166 th Avenue NE	B	18.3		
16	NE 79 th Street / 166 th Avenue NE ³				
	- Eastbound Approach	F (B) ⁴	>200 (11.0) ⁴	F (B) ⁴	>200 (10.2) ⁴
	- Westbound Approach	F (C) ⁴	>200 (21.5) ⁴	F (C) ⁴	>200 (22.3) ⁴
17	Avondale Way / NE 79 th Street	D	38.0	D	37.6
18	Avondale Way / Union Hill Road	C	23.4		
19	W Lake Sammamish Pkwy / SR 520 / Leary Way NE	F	85.0	F	84.6
	NE 85 th Street / Site Dwy / Village Square Dwy ⁵				
	- Eastbound Approach	A (A) ⁶	7.8 (7.8) ⁶	A	8.7
	- Westbound Approach	B (B)	10.8 (10.8)	B	11.3
	- Northbound Approach	F (E)	54.1 (43.9)	D	34.8
	- Southbound Approach	E (D)	41.0 (29.9)	D	25.3

Source: Heffron Transportation, Inc., December 2016.

1. Level of service.
2. Average seconds of delay per vehicle.
3. Unsignalized intersection (stop controlled on eastbound and westbound approaches.)
4. Level of service shown for existing configuration (and possible re-configuration with eastbound and westbound approaches restricted to right-turn only movements.)
5. Unsignalized location. Proposed site driveway with right-turns on allowed out of the site driveway during peak times.
6. (X) – Level of service shown with TMP applied to the office component of the project for site access intersection.

Parking Supply and Demand

Figure 1. Cumulative Parking Demand for the All-Residential Option –Shared Uses Only



Source: Estimated using Right-Size Parking Rate for residential use plus ITE parking rates for grocery and retail.

Transportation Concurrency

Table 6. Transportation Concurrency Estimate – All Residential Option

Land Use	# Units/SF ^a	Mobility Unit Rate ^b	Mobility Unit Demand
Proposed Multi-Family	409 units	1.39/unit	569
Proposed Office	0 sf	5.66/1,000 sf	0
Proposed Supermarket	21,820 sf	13.68/1,000 sf	299
Proposed Retail	10,480 sf	6.34/1,000 sf	66
(Removed Post Office)	(12,910 sf) ^c	16.19/1,000 sf	(209)
Net New Mobility Unit Demand			725

a. Square feet

b. City of Redmond Mobility Unit Rate per unit or 1,000 sf. Values for Downtown Urban Center.

Traffic Impact Fee

Table 7. Traffic Impact Fee Estimate – All-Residential Option

Land Use	# Units/SF ^a	Rate ^b	Impact Fee
Proposed Multi-Family	409 units	\$3,261.22/unit	\$1,333,840
Proposed Office	0 sf	\$15.45/sf	\$0
Proposed Supermarket	21,820 sf	\$32.09/sf	\$700,200
Proposed Retail	10,480 sf	\$14.87/sf	\$155,840
(Removed Post Office)	(12,910 sf) ^c	(\$37.98/sf)	(\$490,320)
Total Fee			\$1,699,560

a. Square feet

b. City of Redmond Municipal Code. Rates effective January 1, 2016.

c. This value represents the building square footage only as a conservative estimate. The actual usable square footage of the specialized areas may also apply.